# News

## G8 countries set priorities for infectious diseases but fail to make progress on debt relief

Leaders of the world's wealthiest countries committed themselves at a meeting held on 22–23 July to achieve ambitious targets to reduce the prevalence of malaria, tuberculosis and acquired immunodeficiency syndrome (AIDS). In a lavish summit in Okinawa, Japan, the heads of the Group of Eight (G8) nations noted that health is key to prosperity and pledged to go much further in fighting these three diseases, which particularly affect the developing world.

"Only through sustained action and coherent international cooperation to fully mobilize new and existing medical, technical and financial resources, can we strengthen health delivery systems and reach beyond traditional approaches to break the vicious cycle of disease and poverty," the G8 said in a final statement.

The leaders promised to work with the World Health Organization to meet three targets by 2010: a 25% reduction in the number of young people infected with the human immunodeficiency virus, a 50% decrease in mortality due to tuberculosis, and a 50% reduction in the number of malaria cases.

Specifics will be drawn up at an international conference to be convened in Japan in the autumn, but several G8 countries, including the European nations and Japan, have already pledged additional resources to tackle these three diseases. The G8 also said it would address the contentious issue of how to make pharmaceuticals more cheaply available in developing countries. "We cannot be satisfied with a global health system in which the majority of patients are in the south while most of the medicines are in the north," said French President Jacques Chirac.

Anti-poverty campaigners and global health care activists gave a cautious welcome to the G8 pledge to fight disease, but they emphasized that such an initiative needed to be carried out in tandem with measures to relieve the economic hardships of developing nations. "It is very good that the G8 have prioritized the fight against infectious diseases, but we are worried this commitment may end up as an empty promise like the one made last year on debt relief," said Samantha Bolton of Médecins Sans Frontières.

There was widespread disappointment that the summit, which was staged at a cost of about US$ 800 million, failed to make any progress on the question of easing the burden on heavily indebted developing countries. At last year's G8 summit in Cologne, Germany, the G8 pledged to relieve the debts of 81 heavily indebted poor countries, all of which spend more on interest payments than health care and education. However, because of the slow and complicated process, only 20 nations are expected to start receiving any relief by the end of the year. ■

Jonathan Watts, *Okinawa*

## West Nile virus detected in mosquitoes in Central Park

Local health authorities throughout the New York City area have stepped up surveillance and ordered more spraying of neighbourhoods with insecticide as more birds infected with West Nile virus are identified and as more mosquitoes carrying the virus are found.

In July, the nation's most famous urban park — Central Park — was closed and a New York Philharmonic outdoor concert postponed after city officials announced that they had found mosquitoes infected with West Nile virus in Central Park and would spend the night administering insecticide to the 843-acre park.

Brooklyn and Queens have been added to the areas needing spraying with insecticides. New York City recently escalated its efforts further to combat the problem when Mayor Rudolph Giuliani said he would ask the state for permission to start aerial spraying on Staten Island. New York City Department of Health spokesman Erich Giebelhaus says the city is in "talking stages" with the New York State Department of Environmental Conservation, from which permission must be obtained to spray larvicide. The city wants to target some areas, like wetlands, that would be inaccessible to ground spraying, Giebelhaus says.

Nassau County announced that for the first time this summer two dead birds infected with the virus had been found in two communities in the Long Island area. Nassau joins Rockland, Suffolk, Westchester, Staten Island, and Queens — as well as communities in North Jersey and Connecticut — that have reported similar findings.

In addition, there are signs that the virus has spread out of the New York metropolitan area to other East Coast cities. Boston recently reported that two birds found there had tested positive for the virus. Massachusetts is the fifth state where the mosquito-borne virus has spread since it was first detected in North America last August and sent scientists along the East Coast scrambling to monitor its transmission.

Officials continue to stress that, as of yet, no humans have been diagnosed this year with the virus, which can cause encephalitis, a potentially fatal disease that may lead to swelling of the brain and damage to the central nervous system. The West Nile virus killed seven people and sickened another 62 last summer, but is considered by experts to be a mild pathogen.

The origins of the infected crows in the Boston area remain a mystery, but city and state officials appear unwilling to take any chances. Low concentrations of resmethrin, a synthetic pesticide, were sprayed in Boston and around three vacation areas popular with tourists.

West Nile virus has been commonly found in humans, birds and other vertebrates in Africa, Eastern Europe, and parts of Asia, but had not been reported in the western hemisphere until recently. The origin of the virus found in the United States is not known. According to the US Centers for Disease Control and Prevention in Atlanta, mosquitoes are infected when they feed on infected birds. After an incubation period of 10 to 14 days, mosquitoes can transmit the West Nile virus to humans and animals. ■

Scott Gottlieb, *New York*

## Working draft of the human genome completed

Both the public Human Genome Project and biotechnology company Celera Genomics have put together their first compilations of the human genome DNA nucleotide sequences. After two years of often heated competition, the leaders of the public and private sector efforts met in June in Washington to praise each other's achievements and announce the historic milestone. James Watson, Director of the Cold Spring Harbor Laboratory, commented wryly: "From the public viewpoint, everyone has gained".

The Human Genome Project working draft covers 97% of the human genome, and a final, completed version is now expected within the next two years, with work centering on filling the gaps in the draft sequence and raising overall accuracy to 99.99%. Scientists at 16 institutions in France, Germany, Japan, the People's Republic of China, the United Kingdom and the United States generated around 82% of the sequencing data in the public project which made its results available without delay via the Internet.

  

The coordinated work of unlocking the secrets of DNA, the double-stranded molecule packaged into 23 chromosomes which may code for up to 150 000 genes, began in 1990. The goal of the human genome research has been to obtain a single reference sequence of the three billion chemical bases that make up human DNA. But although the working draft is a major milestone, therapeutic applications of the technology are only in their infancy.

The aim now is to use the genetic blueprint to match genes with their functions and to detect genetic variations. Already, dozens of disease genes have been pinpointed by researchers accessing the public working draft. More than 300 000 individual genetic variations — single nucleotide polymorphisms or SNPs — have been found which are crucial to the study and understanding of human diseases and disorders.

Identifying genes and mutated genes important in the development of disease will also lead to better-targeted medicines. Latest predictions are that new medicines generated from the project will reach the market in large numbers within the next 10 to 15 years.

Research is on-going to identify the genes and genetic variations that alter the risk of developing a range of common diseases, including Alzheimer disease, asthma, different forms of cancer, and Parkinson disease. Individual genetic data, which may one day be carried embedded in personal smart cards, will mean that drugs can be tailor-made for each patient, dramatically reducing the risk of side effects.

The technology will also lead to better screening for diseases, but that will raise ethical issues affecting insurance, employment and even marriage. Controversies over patenting, as already seen with the hereditary breast cancer genes, are also likely to become a growing problem.

The total costs of producing the public project working draft, which involved input from 1000 scientists around the world, is estimated at US$ 300 million. Work on sequencing began in 1990 and the total amount spent has been estimated at US$ 3 billion. However, that includes funding for projects as diverse as developing computer methods to analyse genomes to studies looking at the ethical, legal and social issues surrounding genetics. ■

Roger Dobson, *Abergaveny*

## Nelson Mandela calls for unity at the XIIIth International AIDS Conference in Durban, South Africa

Former South African President Nelson Mandela closed the XIIIth International AIDS Conference in Durban with a call for unity in the fight against the HIV/AIDS epidemic. He commented: "We will have to rise above our differences and combine our efforts to save our people. History will judge us harshly if we fail to do so now". The speech did much to dispel the disappointment surrounding the opening remarks of current President Thabo Mbeki, who did little to remove the perception that he still has doubts about the cause of the epidemic. Mbeki angered some in his opening remarks by failing to take the opportunity to state clearly that HIV is the cause of AIDS. Mr Mandela's speech served to focus attention on one of the main issues of the conference — 90% of those infected with the virus live in developing countries, many in sub-Saharan Africa, and are unable to afford treatments for the disease.

Other matters discussed included the effect of violence on the progress of the epidemic. Speaking at the meeting, Dr Gro Harlem Brundtland, Director-General of WHO, commented: "Violence against women is an important contributor to HIV's spread...We will not achieve progress against HIV until women gain control of their sexuality". Studies in the Republic of Kenya and the United States have shown that up to one-fifth of women with HIV reported having experienced violence as a result of their HIV status. People must speak out against all forms of violence against women, including rape, domestic violence, and sexual abuse. "Women must know and feel that society supports them when they say no to unwanted or unprotected sex," Dr Brundtland added.

In studies of new ways to prevent HIV transmission, disappointing results were presented for the use of the spermicide nonoxinol-9. The spermicide, used in gel form, was hoped to be an effective means of protecting women from HIV infection, but results from a phase III clinical trial showed this not to be the case. A microbicide would be a major breakthrough in preventing the spread of AIDS since women could protect themselves from infection without the need to secure the cooperation of their partner.

Much of the research reported at the conference focused on addressing problems in developing countries. James McIntyre and Glenda Grey of the University of the Witwatersrand, South Africa, reported that nevirapine could drastically reduce the transmission of the virus from infected mothers to their newborn infants. The incidence of HIV in newborns was drastically reduced after administration of two doses of the drug, one during labour to the mother and the second 24–48 hours after birth to the baby. Before the meeting, Boehringer Ingelheim announced that nevirapine will be distributed free of charge to developing countries for five years in an attempt to reduce vertical transmission of HIV.

Activists and others emphasized that pharmaceutical companies and governments should think hard about ensuring effective ways for such drugs to reach those who need them most. ■

Barry Whyte, *Bulletin*

## WHO defines priority actions to address developments in human genetics

The World Health Organization recently defined priority actions that it would like to implement in the area of human genetics. At a meeting held on 20–21 July 2000 in Geneva, invited experts and WHO representatives met to discuss the role of the Organization in addressing ethical issues, legal and educational implications of new developments in research, and disparities for developing countries in access to the new technologies of human genetics.

The delegates acknowledged that many individuals, groups and nations have urgent concerns about the use and exploitation of genetic data and genome technology, but also noted concerns that non-genetic determinants of health should not be neglected in attempts to address these problems. WHO has produced several detailed guidelines outlining the ethical issues, but now wants to set priority targets for future work.

One area of particular importance is to ensure the availability of genomic and bioinformatics resources for all countries and, in particular, to provide a mechanism for involving developing countries in the decision-making processes. Abdallah Daar, Professor of Surgery at Sultan Qaboos University in Oman and a member of the Ethical, Legal and Social Implications Committee of the Human Genome Organization, commented: "There is a danger that the benefits of research in genetics will not be shared equitably and that inappropriate patenting may prove to be detrimental. WHO should participate in the international debate on the implications of patenting and biotechnology to ensure that the consequences for health in all countries are taken into account." Indeed, WHO hopes to develop the capacity to offer a global response to the issues posed by the revolution in human genetics. Proposed projects include the formation of a genetic resource centre that will encourage collaboration between developing and industrialized countries. The centre would coordinate facilities and resources for research, education and the introduction of international standards in human genetics worldwide.

A meeting is planned with the Director-General of WHO in the near future to discuss how these plans may be implemented. ■

Barry Whyte, *Bulletin*